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ANNOUNCEMENT
OF THE NEW YORK STATE
VETERINARY COLLEGE
1912-13

APRIL 15, 1912
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ITHACA, NEW YORK

This announcement is intended to give detailed information to prospective students in the New York State Veterinary College at Cornell University.

For general information concerning the University and its various colleges, the requirements for admission, etc., the General Circular of Information should be consulted. This and the other Official Publications of Cornell University are listed on the last page of the cover of this pamphlet. Any one of the informational publications there mentioned will be sent gratis and post-free on application to The Registrar of Cornell University, Ithaca, N. Y.

CALENDAR

1912–13

Sept. 13,	Friday,	Entrance examinations begin.
Sept. 23,	Monday,	Academic year begins. Registration of new students. Scholarship examinations begin.
Sept. 24,	Tuesday,	Registration of new students.
Sept. 25,	Wednesday,	Registration of old students.
Sept. 26,	Thursday,	Instruction begins. President's annual address to the students.
Sept. 28,	Saturday,	Registration, Graduate School.
Oct. 15,	Tuesday,	Last day for payment of tuition.
Nov.	Thursday–Friday,	Thanksgiving recess.
Dec. 23,	Monday,	Instruction ends } Christmas Recess.
Jan. 6,	Monday,	Instruction resumed } Christmas Recess.
Jan. 11,	Saturday,	Founder's Day.
Jan. 27,	Monday,	Term examinations begin.
Feb. 8,	Saturday,	Registration, undergraduates.
Feb. 10,	Monday,	Registration, Graduate School.
Feb. 10,	Monday,	Instruction begins.
Feb. 28,	Friday,	Last day for payment of tuition.
April 2,	Wednesday,	Instruction ends } Spring Recess.
April 8,	Tuesday,	Instruction resumed } Spring Recess.
May 31,	Saturday,	Navy Day.
June 2,	Monday,	Term examinations begin.
June		Commencement.

1913-14

Sept. 12,	Friday,	Entrance examinations begin.
Sept. 22,	Monday,	Academic year begins. Registration of new students. Scholarship examinations begin.
Sept. 23,	Tuesday,	Registration of new students.
Sept. 24,	Wednesday,	Registration of old students.
Sept. 25,	Thursday,	Instruction begins. President's annual address to the students.
Sept. 27,	Saturday,	Registration, Graduate School.
Oct. 14,	Tuesday,	Last day for payment of tuition.
Nov.	Thursday–Friday,	Thanksgiving recess.
Dec. 20,	Saturday,	Instruction ends } Christmas Recess.
Jan. 5,	Monday,	Instruction resumed } Christmas Recess.
Jan. 11,	Sunday,	Founder's Day.
Jan. 26,	Monday,	Term examinations begin.
Feb. 7,	Saturday,	Registration, undergraduates.
Feb. 9,	Monday,	Registration, Graduate School.

NEW YORK STATE VETERINARY COLLEGE

FACULTY

Jacob Gould Schurman, A.M., D.Sc., LL.D., President.

James Law, F.R.C.V.S., Professor of Principles and Practice of Veterinary Medicine. Emeritus.

Simon Henry Gage, B.S., Professor of Histology. Emeritus.

Veranus Alva Moore, B.S., M.D., V.M.D., Professor of Comparative Pathology and Bacteriology, and of Meat Inspection. Director of the College.

Walter Long Williams, Professor of Principles and Practice of Veterinary Surgery, Obstetrics, Zootechny, and Jurisprudence.

Pierre Augustine Fish, D.Sc., D.V.M., Professor of Veterinary Physiology, and Secretary of the Faculty.

Grant Sherman Hopkins, D.Sc., D.V.M., Professor of Veterinary Anatomy and Anatomical Methods.

Dennie Hammond Udall, B.S.A., D.V.M., Professor of Veterinary Medicine and Hygiene.

Howard Jay Milks, D.V.M., Assistant Professor in Therapeutics and Small Animal Clinic.

Samuel Howard Burnett, M.S., D.V.M., Assistant Professor in Comparative Pathology and Bacteriology.

James Nathan Frost, D.V.M., Instructor in Surgery.

Earl Sunderville, D.V.M., Instructor in Veterinary Anatomy.

Charles Ernest Hayden, A.B., Instructor in Veterinary Physiology.

Frederick Koenig, D. V.M., Instructor in Veterinary Medicine.

Frederick Sowden Jones, D.V.M., Instructor in the Study of Poultry Diseases.

Raymond Russell Birch, B.S., Instructor in Experimental Pathology.

Clifford Penny Fitch, A.M , D.V.M., Instructor in Pathology and Bacteriology.

Earl Max Pickens, D.V.M., Assistant in Diagnosis.

Frank Breed, D.V.M., Assistant in Diagnosis.

John Ellis Deal, D.V.M., Assistant in Materia Medica.

Rudolph Ray Bolton, A.B., Student Assistant in Research.

Kenneth Adam Shaul, D.V.M., Hospital Interne.

Helena Harriet Haight, A.B., Clerk of the College.

Frances van Zandt, Librarian of the Roswell P. Flower Library.

Henry Hiram Wing, M.S., Professor of Animal Husbandry.

Louis Munroe Dennis, Ph.B., B.S., Professor of Inorganic Chemistry.

Benjamin Freeman Kingsbury, Ph.D., M.D., Professor of Histology and Embryology.

Arthur Wesley Browne, M.S., Ph.D., Professor of Inorganic and Analytical Chemistry.

William Albert Riley, B.S., Ph.D., Assistant Professor of Entomology.

James A. Badertscher, Ph.M., Instructor in Histology and Embryology.

Philip Edward Smith, A.M., Instructor in Histology and Embryology,

Thomas Whitney Benson Welsh, A.B., Instructor in Inorganic Chemistry.

Emmett Francis Hitch, A.B., A.M., Instructor in Organic Chemistry.
Arthur Earl Houlehan, A.B., Assistant in Chemistry.
Louis Koten, Student Assistant in Histology and Embryology.

NON-RESIDENT LECTURERS FOR 1911–12

J. F. DeVine.....Goshen
R. P. Lyman.....East Lansing, Mich.
J. W. Adams.....Philadelphia, Pa.
Cassius Way.....Harvard, Ill.
W. G. Hollingworth.....Utica

VETERINARY COLLEGE DIRECTORY

The President of the University, Jacob Gould Schurman, 2 Morrill Hall.
The Director of the Veterinary College, Professor V. A. Moore, 1st floor.
Professor D. H. Udall, Room 1, s. w. corner, 1st floor.
Professor Walter L. Williams, Room 2, s. e. corner, 1st floor.
Professor Pierre A. Fish, Room 4, n. e. corner, 1st floor.
Professor Grant S. Hopkins, Room 12, n. e. corner, 2d floor.
Professor Veranus A. Moore, Room 13, s. w. corner, 3d floor.
Assistant Professor S. H. Burnett, Room 17, n. w. corner, 3d floor.
Assistant Professor H. J. Milks, Room 3, n. w. corner, 1st floor.
Clerk of the College, H. H. Haight, 1st floor.
Librarian, Frances van Zandt, Room 9, s. e. corner, 2d floor.
Groom, Adelbert F. Deyo, Cottage east of Main Building.
Assistant Groom, William A. Hulbert.

FOUNDATION

The New York State Veterinary College was established by act of the State Legislature in 1894: "There is hereby established a State Veterinary College at Cornell University," Laws of New York, 1894, p. 207. By action of the Board of Trustees of Cornell University, June 10, 1894, the location of the College upon the University campus was authorized. It was further enacted that while the University does not undertake any financial responsibility for the buildings, equipment, or maintenance of the College, it does consent to furnish instruction upon such subjects as are or shall be in its curriculum, upon such terms as may be deemed equitable.

By further acts of the Legislature provision for the buildings, equipment, and maintenance of the College were made, and finally in 1897, by "An act to provide for the administration of the State Veterinary College, established by chapter 153 of the laws of 1894", it was enacted that the Trustees of Cornell University should be entrusted with the administration.

OBJECTS OF THE INSTITUTION

As stated in the act to provide for the administration of the State Veterinary College: "The State Veterinary College, established by chapter 153 of the laws of 1894, shall be known as the New York State Veterinary College. The object of the said veterinary college shall be: to control investigations as to the nature, prevention, and cure of all diseases of animals, including such as are communicable to man and such as cause epizootics among live stock; to investigate the economical questions which will contribute to the more profitable breeding, rearing, and utilization of animals; to produce reliable standard preparations of toxins, antitoxins, and other productions to be used in the diagnosis, prevention, and cure of diseases and in the conducting of sanitary work by approved modern methods; and to give instruction in the normal structure and function of the animal body, in the pathology, prevention, and treatment of animal diseases, and in all matters pertaining to sanitary science as applied to live stock and correlatively to the human family."

The New York State Veterinary College was therefore founded to raise the standard of veterinary investigation and instruction to the level of the most recent advances in biology and medicine. According to the year book of the United States Department of Agriculture for 1909, the number of farm animals in the State, exclusive of poultry and pet animals, was 5,214,000 with a value of $189,716,000. This gives some idea of the great financial interest at stake in the matter of live stock. For the United States, the value in live stock is approximately $5,138,486,000. This calls for all that learning and skill can do to foster this great industry. For the year 1909 the United States Department of Agriculture gives a census of the domestic animals with their value as follows: horses, 21,040,000, value, $2,276,363,000; mules, 4,123,000, value, $494,095,000; milch cows, 21,801,000, value, $780,308,000; other cattle, 47,279,000, value, $917,453,000; sheep, 57,216,000, value, $233,664,000; swine, 47,782,000, value, $463,603,000.

Another consideration is that the normal, permanent fertilization of the soil is dependent upon the live stock kept, and that where there is a deficiency of animals, the productiveness of the land is steadily exhausted; therefore, the health and improvement of animals and the fostering of animal industry lie at the very foundation of our national wealth. Another and no less potent argument for the higher standard of veterinary education is its influence on the health of the human race. With a long list of communicable diseases which are common to man and beast, and with the most fatal of all human maladies, tuberculosis, also the most prevalent affection in our farm herds in many districts, it is to the last degree important that measures for the extinction of such contagion in our live stock should receive the best attention of the most highly trained experts.

To justify the liberality of the State in creating this seat of learning, it will be the aim of the College thoroughly to train a class of veterinarians for dealing with all diseases and defects that depreciate the value of our live stock, and with the causes that give rise to them. It will further aim, as far as it has the means and opportunity, to establish a center of investigation looking toward discoveries in the nature of diseases, in therapeutics, and the immunization of animals from contagion; and towards the production of organic compounds to be employed in diagnosis, treatment, and immunization. So much has been recently discovered in these directions and present knowledge points so unmistakably to coming discoveries, that to neglect this field at the present time would be very unfortunate. Apart from discovery, the mere production of reliable articles of these organic products now coming into increasing demand by the State and by the private practitioner, for prevention, diagnosis, and treatment, is an object not to be lightly regarded. More than this it is the purpose of the College to be of as much assistance as possible to the practitioner of veterinary medicine.

The combination in one institution of educational facilities with scientific investigation, and the production of vaccines and serums to be employed in modern medical methods, are features that insure the best work in all departments, and the most exceptional advantages for the diligent student.

LOCATION

The New York State Veterinary College is located at Ithaca, on the campus of Cornell University, fronting on East Avenue, and facing the University buildings. Electric cars on East Avenue convey students and visitors to any part of the city. Ithaca with its population of 15,800 is situated at the head of Cayuga Lake, two hundred sixty-three miles distant from New York City, on the lines of the Delaware, Lackawanna, and Western and the Lehigh Valley railroads. The University grounds are four hundred feet higher than the city and command a view of twenty miles of valley and lake.

BUILDINGS

The Main Building, one hundred forty-two feet by forty-two feet and three stories high, overlooks East Avenue and an intervening park of two hundred

twenty by three hundred feet. The walls are of buff pressed brick, on a base of Gouverneur marble; window and door facings are of Indiana limestone and terra cotta ornamentations. On the first floor are the museum and rooms of the director, the professors of physiology, medicine, materia medica, and surgery and obstetrics, and the business office. The second floor contains a lecture room, a laboratory of physiology and pharmacology, reading room, library, and rooms of professors. On the third floor are the offices and the laboratories of bacteriology.

Connected with the main building, and forming its east wing, is a structure of ninety by forty feet and two stories high. This contains the anatomical laboratories, and the lecture room of anatomy, physiology, medicine, and surgery. Its floors are of impermeable cement.

The second extension from the main building is the boiler and engine room where power is generated for heating and ventilation.

The Consulting Clinic has a separate building in the rear of the main building and is furnished with room for instruments, water, heater, etc. The lighting and equipment, and the facilities for demonstration, have received especial attention.

The General Ward, thirty-one by one hundred feet, is furnished with box and other stalls, heating apparatus, baths, and all necessary appliances. The floor is of impermeable cement, and the ceilings of painted sheet steel. There is also a fodder room of twenty by thirty feet.

The Operating Theater for the surgical clinic has been built at the south end of the patient's ward and is connected therewith. The building is well lighted and is provided with modern plumbing. There is a recovery room, in which the patients may recover from the effects of anesthetics, connected with the operating table by an inclined plane, down which the patients may be conveyed. The clinic is well supplied with instruments and modern conveniences.

The Isolation Ward, fifteen by fifty-four feet, has its stalls absolutely separated from one another and each opening from its own outer door. It has the usual impermeable floor, with walls of vitrified brick and with painted steel ceilings.

The Mortuary Building has an impermeable floor, walls of enameled brick, and painted steel plate ceilings, and is fitted with every convenience for conducting post mortem examinations and preparing pathological specimens.

The Kennel, thirty-six by twenty feet, is a building devoted to the clinics for dogs and cats. It has a hot water plant and is well provided with commodious cages, and the ventilation is well arranged. The floor is of cement and provided with drains connecting with the sewer.

The Shed, twenty-four by twenty feet, next to the kennel, is devoted to clinical uses.

These, with a cottage for the groom, complete the list of State buildings erected for the Veterinary College. The equipment has been made very complete for both educational uses and research.

For a more detailed account of the equipment and of the facilities for instruction see Departments, Methods, and Facilities, pp. 12–27.

ADMISSION

Admission on Certificate. For admission, the candidate must possess at least the preliminary education required by the laws of New York (Laws of 1895, Ch. 860) and must present a certificate of good moral character. As evidence that the requirements have been fulfilled, the State Education Department issues Veterinary Student Certificates, and one of these must be obtained by the candidate and filed with the Registrar of the University.

The requirements for a Veterinary Student Certificate are a Regents' academic diploma on the seventy-two count basis or a certificate of the satisfactory completion of four years academic work in a registered institution.

Although a student may enter on any seventy-two counts, it is recommended that the following subjects be included: algebra, physics, physiology, chemistry, Latin, French or German, botany, zoology.

The Education Department will accept as full equivalent of the required academic course any one of the following:

1. A baccalaureate degree from the academic department of any college or university of recognized standing.

2. A certificate of having successfully completed at least one full year's course of study in the collegiate department of any college or university, registered by the Department of Education as maintaining a satisfactory standard.

3. A certificate of having passed in a registered institution examinations equivalent to the full collegiate course of the freshman year or to a completed academic course.

4. Regents' pass cards for any seventy-two academic counts or any Regents' diploma.

5. Certificate of graduation from any registered gymnasium in Germany, Austria, or Russia.

6. A certificate of the successful completion in Italy of a course of five years in a registered ginnasio and three years in a licea.

7. The bachelor's degree in arts or science, or substantial equivalents from any registered institution in France or Spain.

8. Any credential from a registered institution or from the government in any state or country which represents the completion of a course of study equivalent to graduation from a registered New York high school or academy or from a registered Prussian gymnasium.

For full information concerning the education necessary to obtain the Veterinary Student Certificate, or for the acceptance of work done in the academies or high schools of this or of other states not under the Department of Education, address: Examination Division, Department of Education, Albany, N. Y.

Admission on Examination. For the present, students with a Veterinary Student Certificate will be admitted without further examination. For those not possessing such a certificate, admission may be granted to students who pass Cornell University entrance examinations covering 15 units as follows:

English 3 units, history 1 unit, elementary algebra 1 unit, plane geometry 1 unit, elective 9 units. Instead of one unit in history the applicant may offer 1 unit in either botany, biology, or zoology.

For definite information concerning the requirements in each subject consult the General Circular of Information for 1912–13.

Admission to Advanced Standing. Applicants for admission to advanced standing as members of the second or third year class must present the necessary educational qualifications for admission to the first year class, and must pass satisfactory examinations in all the work for which they desire advanced credit, or offer satisfactory certificates of the completion of this work in other schools whose entrance requirements and courses of study are equivalent to those of this College. No person will be admitted to any advanced class except at the beginning of the college year in September.

Graduates of veterinary colleges whose requirements for graduation are not equal to those of the New York State Veterinary College may be admitted provisionally upon such terms as the faculty may deem equitable in each case, regard being had to the applicant's previous course of study and attainments. In this connection, attention is called to the legal requirements of academic and professional education for the practice of veterinary medicine in the State of New York. (See pp. 8–9 and Appendix B.)

Admission to Graduate and Special Work. The ample facilities for graduate and special work in the New York State Veterinary College and in the allied departments in Cornell University, are open to graduates of this institution and of other colleges whose entrance requirements and undergraduate courses are equivalent. (See pp. 8–9.) For a course for veterinarians see p. 26.

REGISTRATION

At the beginning of each term (see calendar for exact day and date) the student must register with the University Registrar, Morrill Hall. After registering with the University Registrar, he must register the same day with the Secretary of the Veterinary Faculty, Dr. Fish, Room 4, 1st floor, of the Veterinary College.

No student, after having been once admitted to the University, will be allowed to register after the close of the Registration Day, except by special permission of the Faculty.

REQUIREMENTS FOR GRADUATION

In order to receive the degree of Doctor of Veterinary Medicine (D.V.M.) candidates must satisfy all the entrance requirements (pp. 8 and 9) and must successfully pursue the courses named in the schedule of studies given below, and must have paid all fees.

SCHEDULE OF COURSES LEADING TO THE DEGREE OF DOCTOR OF VETERINARY MEDICINE (D.V.M.)

The work of the college is arranged to begin during the last of September and to close during the third week in June. This period is divided into two terms, see Calendar p. 2.

PRESCRIBED THREE-YEAR COURSE*

First Year	No. of Course.	Counts 1st Term.	Counts 2d Term.	Total of Actual Hours.
Inorganic Chemistry	1	6	—	135
Histology and Embryology	6	3	5	215
Anatomy	1	3	—	
"	2	1	—	
"	3	3	—	390
"	4	—	5	
Physiology	10	3	—	
"	12	—	3	165
"	14	—	2	
Animal Husbandry	20	—	4	75
		19	19	980
Second Year				
Anatomy	5	3	—	
"	6	3	—	300
"	7	—	2	
Physiology	11	—	1	15
"	13	1	—	15
Pharmacology	20	2	—	30
Materia Medica and Pharmacy	21	2	—	75
General Pathology	40	5	—	150
Parasitic Pathology	44	1	—	30
Animal Parasites	22	2	—	53
Small Animal Clinic	25	—	1	45
Consulting Clinic	53	—	1	45
Bacteriology	43	—	5	143
General Surgery	30	—	4	60
Medicine	50	—	5	75
		19	19	1036
Third Year				
Urine Analysis	15	1	—	45
Diseases of Small Animals	22	—	2	30
Materia Medica and Therapeutics	23	2	—	30
Surgical Exercises	31	1	—	45
Special Surgery	32	4	—	60
Obstetrics	36	—	4	60
Infectious Diseases	42	—	2	30
Special Pathology	41	2	2	106
Small Animal Clinic	25	1	1	90
Consulting Clinic	53	1	1	90

*The faculty is considering a revision of the curriculum which may change somewhat the arrangement of courses as here indicated.

Third Year	No. of Course	Counts 1st Term.	Counts 2d Term.	Total of Actual Hours.
Surgical Clinic	34	1	1	90
Ambulatory Clinic	37	1	1	90
Medical Clinic	54	1	1	90
*Medicine	50	5	5	150
		20	20	997

OPTIONAL FOUR-YEAR COURSE

First Year

Inorganic Chemistry	1	6	—	135
Histology and Embryology	6	3	5	215
Anatomy	1	3	—	
"	2	1	—	
"	3	3	—	390
"	4	—	5	
Physiology	10	3	—	
"	12	—	3	165
"	14	—	2	
Animal Husbandry	20	—	4	75
		19	19	980

Second Year

Anatomy	5	3	—	
"	6	3	—	300
"	7	—	2	
Physiology	11	—	1	15
"	13	1	—	15
Pharmacology	20	2	—	30
Materia Medica Laboratory	21	2	—	75
General Pathology	40	5	—	150
Parasitic Pathology	44	1	—	30
Animal Parasites	22	2	—	53
Bacteriology	43	—	5	143
General Surgery	30	—	4	60
Chemistry	6	—	5	143
Forge	4	—	2	90
		19	17 or 19	1104

Third Year

Urine Analysis	15	1	—	45
Diseases of Small Animals	22	—	2	30
Materia Medica and Therapeutics	23	2	—	30

*Five hours of this course is, in alternate years, devoted to horseshoeing, ophthalmology, and hygiene.

Third Year	No. of Course.	Counts 1st Term.	Counts 2d Term.	Total of Actual Hours.
Special Pathology	41	2	2	106
Small Animal Clinic	25	—	1	45
Consulting Clinic	53	—	1	45
Medicine	50	—	5	75
Clinical Examination of Blood	62	—	2	53
Organic Chemistry	32	4	—	90
The Horse (Care and Judging)	34	4	—	90
Milk Composition and Tests	40	2	—	53
Physical Diagnosis	54	1	1	90
Meat and Milk Production	32	—	3	45
Optional		3	2	75
		19	19	872
Fourth Year				
Special Surgery	32	4	—	60
Obstetrics	36	—	4	60
Surgical Exercises	31	1	—	45
Pathology of Infectious Diseases	42	—	2	30
Small Animal Clinic	25	1	1	90
Consulting Clinic	53	1	1	90
Surgical Clinic	34	1	1	90
Ambulatory Clinic	37	1	1	90
Medical Clinic	54	1	1	90
*Medicine	50	5	5	150
Toxicology	80	2	—	30
Market Milk and Milk Inspection	43	—	2	53
Mechanics of the Horse	35	—	3	75
Optional		3		45
		19	20	998

*Five hours of this course is, in alternate years, devoted to horseshoeing, ophthalmology, and hygiene.

DEPARTMENTS, METHODS, AND FACILITIES

In addition to the departments of the Veterinary College proper, the resources of the entire University are at the disposal of the College by the action of the Board of Trustees at the time when authorization was given for its location on the campus of the Cornell University (p. 5 under foundation). Among the facilities of the University of especial value to the Veterinary College may be mentioned the museums of vertebrate and invertebrate zoology including entomology, of agriculture, of botany, and of geology. The University Library, with its 400,000 bound volumes, 60,000 pamphlets, and 600 current periodicals and transactions, is likewise as freely open to Veterinary College students as to other University students (see also Flower Library).

The Departments with their special equipments, facilities, and methods, are given approximately in the order in which the subjects are pursued in the veterinary curriculum.

The courses required for graduation are given in the schedule of studies, pp. 10–12, but the additional courses offered by the various departments are thought to be of especial value to veterinary students and may be selected by them whenever they have satisfied the requirements.

CHEMISTRY

The instruction in chemistry is given in Morse Hall.

The following are the courses pursued by veterinary students and must be taken in the order here indicated.

1. **Introductory Inorganic Chemistry.**—Six hours. First half-year. Lectures, M W F, 11; Lecture Room 1. Professor DENNIS, Professor BROWNE.

Laboratory practice (two periods of 2½ hours each), and one recitation a week. Professor DENNIS, Professor BROWNE, Mr. WELSH, and Mr. HOULEHAN.

3. **Elementary Organic Chemistry.**—Four hours. First half-year. Lectures and written reviews. M W F, 12; Lecture Room 3. Mr. HITCH Laboratory practice, Th, 2–5.

This optional course may be taken by students in veterinary medicine who have satisfactorily completed course 1 in chemistry.

MICROSCOPY, HISTOLOGY, AND EMBRYOLOGY

B. F. KINGSBURY, Ph.D., M.D., Professor of Histology and Embryology.

J. A. BADERTSCHER, Ph.M., Instructor.

PHILIP EDWARD SMITH, A.M., Instructor.

LOUIS KOTEN, Student Assistant.

This department offers instruction in the theory and use of the microscope and its accessories, in vertebrate histology, vertebrate embryology, and in histologic and embryologic technic; and opportunities for research in all of these subjects. For all of the courses the department is well supplied with the best modern apparatus.

The rooms for the use of this department are on the first and second floors of Stimson Hall. They consist of a large general laboratory, a research laboratory, a preparation room, and laboratories for the instructing staff, where also special demonstrations of difficult subjects are given to small groups of students.

In the course outlined below, the student gains a practical knowledge of the normal structure of the tissues and organs of the animal body by the direct study of them in the laboratory. From time to time, the ability of the student to recognize the normal structure is tested by the identification of unlabelled preparations. The laboratory work is supplemented by recitations, reviews, and lectures covering the general aspects of the subject.

6. **Microscopy, Histology, and Embryology.**—Throughout the year. Credit, eight hours. The exercises each week are as follows: first term, laboratory work,

T, 10–1, Th, 10–12; demonstration, lecture, or recitation. Th, 9; second term, M Th S, 8; laboratory Th F, 2–5. Professor KINGSBURY and Assistants.

Microscopy.—The aim is to give a working knowledge of the theory and use of the microscope and its accessories, methods of mounting microscopical specimens, etc.

Histology.—This includes the study of the fine anatomy of the animal body, and also the fundamental methods of histologic investigation and demonstration.

Embryology.—This deals with the elements and methods of embryology in the domestic animals, especially the chick and the pig, sheep, and cow.

ANATOMY

G. S. HOPKINS, Professor.

EARL SUNDERVILLE, Instructor.

TUNIS O. BRANDENBURG, Student Assistant.

The instruction in anatomy is by lectures, recitations, and laboratory work, the latter being by far the most important. The objects of the lectures are to present facts of general morphology as related to the horse and other domestic animals; to direct attention, as far as possible, to the correlation of structure and functions of the various organs of the body; and to emphasize the anatomical relations of those parts most subject to surgical operations. The main reliance, however, is placed upon the work done in the laboratory. Thorough practical knowledge of anatomy can be acquired in no other way, and every student, before taking his final examinations, will be required to dissect all the parts of the horse or the ox, and such parts of other domestic animals as may prove most expedient.

The courses in anatomy extend through two years. The first year is devoted to the study of bones, joints, muscles, and certain of the viscera; the second year, to the vascular and nervous systems and the organs of special sense.

In the study of osseous, muscular, digestive, and respiratory systems, the skeletons in the laboratory and the Auzoux models afford valuable assistance. In the museum there are accumulating series of specimens which illustrate, in a typical manner, some of the more important anatomical features of the various domestic animals.

The city and surrounding country furnish abundant anatomical material of almost endless variety: horse, ox, sheep, and swine, dog, cat, rabbit, and guinea pig, both adult and all stages of fetal development.

1. **Comparative Osteology.**—Three hours. First term. Lecture, T, 9. From September to February there will be five periods of laboratory work, M T Th F, p. m., S, a. m. From February to June there will be three periods: M, a. m., T, p. m., S, a. m. Professor HOPKINS and Assistants.

2. **Arthrology.**—One hour. First term. This course immediately follows course 1. Professor HOPKINS and Assistants.

3. **Myology.**—Three hours. First term. In this course the dissection of muscles is begun. Lectures, laboratory hours, etc., the same as in the preceding courses. Professor HOPKINS and Assistants.

4. **Myology, Thoracic and Abdominal Viscera.**—Five hours. Second term. Lectures and written reviews, T, 8. One or more weekly recitations. Laboratory work, M, a. m., T, p. m., S, a. m. Professor HOPKINS and Assistants.

5. **The Vascular System.**—Three hours. First term. Laboratory work. M T Th F, p. m., S, a. m. Professor HOPKINS and Assistants.

6. **The Peripheral Nervous System.**—Three hours. First term. Laboratory hours the same as in course 5. Professor HOPKINS and Assistants.

7. **Genital Organs, the Central Nervous System, and Organs of Special Sense.**—Two hours. Second term. Laboratory work, M, 10–1; T, 3–5. Professor HOPKINS and Assistants.

8. **Advanced Anatomy.**—Two or more hours. Laboratory periods in the first term, to be selected from the following: M T Th F, p. m., S, a. m.; and in the second term the following: M T Th F, p. m., S, a. m. The work will be on the osseous, vascular, and nervous systems; the viscera and genito-urinary organs of carnivora; the viscera, genito-urinary organs, and the lymphatic systems of ruminants. Certain regions of the horse, of special surgical importance, may also be reviewed. Professor HOPKINS and Assistants.

PHYSIOLOGY

P. A. FISH, Professor.

C. E. HAYDEN, Instructor.

It is the aim of this department to select from a wide field of important topics those which will be of greatest use to the student, in comprehending the vital processes of the animal body. Without a complete understanding of the normal functions, it is useless to attempt progress in the proper conception of diseased conditions.

The proper correlation of work in the laboratory, and in the recitation and lecture room, it is believed, will afford to the student a more comprehensive grasp and understanding of the perspective and symmetry of the subject than can otherwise be obtained.

The lectures are illustrated with lantern slides, charts, histological preparations, dissections, and practical demonstrations.

The laboratory is located on the second floor of the Veterinary College. It is well lighted and ventilated and equipped with new apparatus. The equipment includes kymographs, induction coils, sphygmographs, cardiographs, circulation schemes, tambours, centrifuges, microscopes, and other apparatus for complete and satisfactory work.

Every encouragement is offered to those properly fitted to pursue their work beyond that given in the regular curriculum.

10. **Physiology Recitations.**—Three hours weekly. First term. Sec. I, M W F, 9; sec. II, M W F, 10. Professor FISH and Mr. HAYDEN.

11. **Physiology Recitations.**—One hour weekly. Fourth term. Sec. I, S, 10; sec. II, W, 11. Professor FISH and Mr. HAYDEN.

12. **The Physiology of the Nutrition and Secretion of the Domesticated Animals.**—Three hours weekly. Second term. T Th F, 10. Professor FISH.

13. **The Physiology of the Muscular and Nervous Systems.**—One hour weekly. Third term. T, 12. Professor FISH.

14. **Physiological Laboratory.**—A portion of the course is devoted to chemical physiology. Artificial digestive juices are tested upon the various kinds of food-

stuffs by the students and careful notes kept of the various changes. Milk, bile, and blood are also studied, including a spectroscopic examination of the latter. A large proportion of the work is devoted to a study of the phenomena associated with the circulatory, respiratory, muscular, and nervous systems. Students are to obtain and preserve graphic records of these phenomena, whenever possible. Certain experiments requiring special apparatus and special care are performed by the instructors, as demonstrations, with the assistance of the students when possible. Five hours a week. Second term. Sec. I, T, 11–1, W, 8–11; sec. II, Th, 11–1, F, 9–10, 11–1. Professor FISH and Assistants.

15. **Urine Analysis.**—Laboratory work devoted to the comparative study of urine. Examinations are made of human urine and that of the domesticated animals especially the horse. In addition to the chemical examination some time will be devoted to a microscopic study of urinary deposits. As far as possible each student is expected to prepare and preserve a series of typical slides. Three hours a week. Fifth term. Sec. I, W, 9–12; sec. II, S, 9–12. Professor FISH and Assistants.

16. **Advanced Physiology.**—This course will be adapted to the needs of the student and will consist principally of laboratory work supplemented by such reading and reports as may be necessary. Five or more hours a week. Professor FISH and Assistants.

MATERIA MEDICA AND SMALL ANIMAL CLINIC

H. J. MILKS, Assistant Professor.
J. E. DEAL, Assistant.

The instruction in pharmacology consists of class room and laboratory work. In pharmacology the work includes not only the materials of medicine, but also their preparations, use, and physiological actions. Allowing for certain exceptional differences, there is in general a resemblance in the action of drugs in the lower animals and in human beings. The clinics furnish abundant material for the study of applied therapeutics and the action of the different drugs.

20. **Pharmacology.**—A study of the actions and uses of the various drugs and their preparation. A varied collection of the crude drugs and their official preparations is available. The course is conducted in the form of lectures with short weekly examinations. First term. W Th, 10. Assistant Professor MILKS.

21. **Materia Medica and Pharmacy Laboratory.**—The work in this course consists of the study of a selected group of inorganic drugs and of certain crude organic drugs and their official preparations, also of making pharmaceutical preparations such as syrups, emulsions, spirits, liniments, tinctures, fluid extracts, extracts, ointments, pills, etc. In their study the students are required to write concise notes of the physiologic action of the drugs examined and to make tests of their incompatibility. In addition to this, each student will have practical experience in writing and compounding prescriptions. The importance of a discriminating and accurate system for dispensing medicines is thoroughly emphasized. Five hours each week. First term. Sec. I, Th, 11–1, F, 10–1; sec. II, M, 10–1, T, 10–12. Assistant Professor MILKS and Assistants.

22. **Diseases of the Small Animals.**—This course deals principally with canine and feline diseases. Two lectures or recitations throughout the second term of the senior year. M W, 9. Assistant Professor MILKS.

23. **Recitations in Materia Medica and Therapeutics.**—First term. M, 10, F, 10. Assistant Professor MILKS.

24. **Advanced Work.**—This course will consist principally of laboratory exercises on the physiologic action of drugs on animals and will be supplemented by collateral reading and reports. Five or more hours a week. Assistant Professor MILKS and Assistants.

Clinic for Small Animals.—In this clinic, dogs and cats form the majority of patients. The students have close supervision of the cases; they compound and administer medicines and assist in the surgical operations.

25. **Small Animal Clinic.**—Six actual hours a week. Daily, 2–3 p. m. Assistant Professor MILKS and Assistants.

This course is required of junior students in their second term. The seniors take it throughout the year. This clinic is given at the same time as the consulting clinic (course 53). Students alternate their work by transferring from one clinic to the other each month.

COLLEGE OF AGRICULTURE—ANIMAL HUSBANDRY AND PARASITES

Courses

20. **Animal Husbandry.**—Special course for students in the Veterinary College. The principles of breeding and feeding animals, with the history of the improved breeds and practicums in compounding rations and stock judging. Second term. T, 9, W, 11–1, Th, 9, S, 9. Professors WING, HARPER, and SAVAGE.

22. **Animal Parasites and Parasitism.**—General course including lectures and laboratory work. A consideration of the origin and biological significance of parasitism and of the structure, life history, and economic relations of representative animal parasites. First term. Credit, two hours. T, 8, Laboratory, W 11–1, College of Agriculture, Main 392. Assistant Professor RILEY.

SURGERY, OBSTETRICS, ZOOTECHNICS, AND JURISPRUDENCE

W. L. WILLIAMS, Professor.
J. N. FROST, Instructor.
K. A. SHAUL, Hospital Interne.

The instruction consists of class room and laboratory work designed to produce symmetrical training for successful practice.

Surgery

CLASS ROOM WORK

Course 30 (see courses, p. 19), General Veterinary Surgery, with course 40, Department of Pathology and Bacteriology (General Pathology), and course 31 of Surgery (Surgical Exercises), constitute a complementary group intended to impart a general knowledge of the principles of surgery, surgical pathology, and therapeutics and operative technic.

Courses 32 and 33 (see page 20), a total of eighty-five lectures and recitations, are devoted to the surgery of the various regions of the body.

The College possesses an extensive collection of surgical instruments and apparatus of home and foreign make, illustrating the history of veterinary surgery as indicated by the means employed in the cure of diseases. It has also acquired the very extensive pathologic collection accumulated by Cornell University since its foundation, to which have been added many important contributions by veterinarians. There are numerous and constant additions from the college clinics.

Surgery and Obstetrics

LABORATORY WORK AND CLINICS

The laboratory work in surgery and obstetrics consists of surgical and obstetric exercises and clinics.

The courses in surgical exercises comprise seventeen periods of three hours each in which the student is required to perform all the important operations on anæsthetized animals, which are destroyed at the close of each exercise. An additional special course (31a) in advanced surgical technic is offered to graduates and to those seniors who may elect the course subject to the approval of the professor in charge. Strict method is enforced in relation to asepsis and antisepsis, arrest of hemorrhage, suturing, and dressing, so that while acquiring skill and a knowledge of the appearance, resistance, and general characters of living tissues, the student also forms proper habits in surgical procedure.

Obstetric exercises are given by appointment throughout the year. For this work a strong skeleton is used, in which an artificial uterus is fixed. Newly born calves are procured, killed, and so placed in the artificial uterus that the various corrections of position and embryotomic operations are carried out by the student under the direction of the instructor in charge.

Clinical Surgery and Obstetrics of the Larger Animals.—M W, 11; F, 10. One year. Students in charge of cases are required to give necessary daily attention.

Ambulatory Clinic.—An ambulatory or out-clinic has been established for the benefit of those students intending to engage in private practice.

Proper conveyances and equipment have been provided and an opportunity offered for observing such diseased farm and dairying animals as can not be conveniently entered in the clinics at the College. The student thereby not only has an opportunity to see cases not readily brought to the college clinic but also assists in handling cases in the same manner and under the same environment as is required of the country practitioner.

Since the vicinity of Ithaca is in large part devoted to dairying, valuable clinical material relating to obstetrics and the diseases of dairy cows is available and extensively used.

The location of the College and its plan of organization give unusual opportunities for clinical instruction in the character of the cases, the variety of species of animals, and the availability of each case for purposes of instruction. The city of Ithaca contributes a number of horses afflicted with lameness and other diseases characteristic of city work animals, while the tributary agricultural

region furnishes a varied and instructive clinic of the diseases of young and breeding animals, of castration and spaying, and of the diseases of meat producing, dairying, and work animals, with the accidents incident to country practice.

A new surgical building with thoroughly modern equipment in every respect has been recently added. It includes an operating room fitted with operating table, stocks, and other conveniences, commodious recovery room for chloroformed animals, and other accessory rooms for instruments, drugs, and other necessaries. The entire structure is planned to secure the highest efficiency in aseptic and antiseptic surgery.

Many of the operations are performed by competent students under proper supervision, thus fitting them to carry out operations supported by that confidence and skill which only actual experience can give.

Chloroform and other anaesthetics are regularly used in painful operations. Instruments and apparatus of the most approved pattern are kept directly at hand in the operating room, and the student becomes familiar with their good and bad points by actual use.

Special apparatus for investigation is supplied as needed, and advanced students are called upon to assist in the various investigations, becoming not only more familiar with surgical manipulations but also inspired to study methodically and effectively the many questions in surgical pathology and therapeutics, thus becoming better prepared to cope promptly and properly with the many atypical cases constantly occurring in general practice.

Obstetrics

Course 36 (see page 20), consisting of sixty lectures and recitations, is given during the second term at the time when obstetric clinics are most available.

The course is preceded by an extended study of embryology, obstetrical anatomy, and physiology.

Zootechnics

The subject of zoötechnics is taught chiefly in the College of Agriculture and is concerned with the various breeds of domestic animals and with the method of breeding and handling them.

Supplementary to this instruction, a course of lectures is given dealing especially with the breeding, care, and management of animals, in relation to disease, hereditary disease, and vices, and a general résumé of the subject of breeding and care as related to veterinary science.

Jurisprudence

A course of lectures is given during the first term of the third year, dealing with the general responsibilities of veterinarians to the public, to stock owners, and to professional colleagues. Methods of making and recording examinations for soundness are considered, and a special study is made of physical diagnosis and prognosis as related to this subject. Practice is given in the clinics.

30. **General Surgery.**—Four recitations a week, second term. T Th, 9, F S, 11. Dr. FROST.

Prerequisites, courses 1, 2, and 3 in anatomy, course 12 in physiology, course 6 in histology and embryology, and course 40 in general pathology.

31. **Surgical Exercises.**—Three hours a week of laboratory work in surgical operations upon anaesthetized animals. Third year. First term. Sec. I, T, 9–12; sec. II, Th, 9–12. Professor WILLIAMS and Drs. FROST and SHAUL.

31a. **Surgical Exercises.**—Three hours a fortnight of laboratory work in advanced surgery. Open to graduates and elective for seniors upon approval of professor in charge. Professor WILLIAMS and Drs. FROST and SHAUL.

32. **Special Surgery.**—Four lectures or recitations a week. First term. M T W Th F, 10. Professor WILLIAMS.

33. **Clinical Surgery.**—One lecture a week throughout the year, based upon the work of the college clinics. Open to graduates and optional to seniors.

34. **Surgical Clinics.**—Three actual hours or more a week throughout the year. M W F, 11. Professor WILLIAMS and Drs. FROST and SHAUL.

Prerequisites, courses 30 and 31.

35. **Jurisprudence.**—Two lectures a week during the month of January. Professor WILLIAMS.

36. **Obstetrics and Zootechnics.**—Four lectures or recitations a week. Second term. M T W Th F, 11. Professor WILLIAMS.

Prerequisite, course 30.

37. **Ambulatory or Out-Clinic in Obstetrics, Surgery and Medicine.**—Throughout the year by appointment. Professor WILLIAMS, Drs. FROST and SHAUL, and Professor UDALL.

COMPARATIVE PATHOLOGY, BACTERIOLOGY, AND MEAT INSPECTION

V. A. MOORE, Professor.
S. H. BURNETT, Assistant Professor
R. R. BIRCH, Instructor in Experimental Pathology.
F. S. JONES, Instructor in Study of Poultry Diseases.
C. P. FITCH, Instructor in Pathology and Bacteriology.
EARL M. PICKENS, Assistant in Laboratory Diagnosis.
FRANK BREED, Assistant in Laboratory Diagnosis.
R. RAY BOLTON, Student Assistant in Research.

The instruction in pathology and bacteriology is given by means of lectures, recitations, and laboratory work. In general pathology, Ziegler's textbook is followed, supplemented by the results of more recent investigations as they are found in current literature and special monographs. The laboratory work comprises examination of microscopic preparations of morbid tissues and the study of gross specimens. Opportunity is offered for more extended work both in technic and the study of pathological histology. For this highly important work, the laboratory is especially well equipped.

The bacteriological laboratories are well equipped with the best modern apparatus. The students will, under proper supervision, be instructed in the technic necessary for a practical working knowledge of bacteriology. The more important species of pathogenic bacteria will be studied. The special methods which are necessary for diagnosing such diseases as tuberculosis, anthrax, glanders, and the infectious swine and poultry disorders will receive careful attention.

For those who wish to do advanced work in any of these subjects excellent facilities are afforded. As the College is constantly investigating outbreaks of infectious diseases among animals in the state, an abundance of working material is assured. This enables the student to come into touch with practical work in bacteriological diagnosis.

As is seen from the above, it is the aim of this department to drill the students, by means of actual work, in the technic necessary for them to apply successfully in their future professional duties the knowledge acquired in the study of pathology and bacteriology. To this end the courses of instruction have been carefully arranged, and for this purpose the laboratories have been equipped.

The subject of meat inspection is considered in courses 41 and 42, which are required of all seniors.

40. **General Pathology.**—First term. Prerequisites, normal histology and at least one year's work in anatomy and physiology. Two recitations and eight hours laboratory work each week. Recitations T Th, 9. Laboratory, sec. I, M, 10–1, T, 10–12, F, 8–10; sec. II, W, 2–5, Th, 11–1, F, 10–1. Professor MOORE, Assistant Professor BURNETT, and Instructor ———.

41. **Special Pathology and Meat Inspection.**—First and second terms. Prerequisite, course 40. One lecture and one laboratory period each week. Lecture, F, 9. Laboratory work, sec. I, W, 10–1; sec. II, S, 8–11. Professor MOORE and Assistant Professor BURNETT.

42. **Pathology of Infectious Diseases.**—Second term. Open to students who have taken courses 40 and 41 and have taken or are taking course 43. Two hours. Recitations T Th, 9. Professor MOORE and Instructor ———.

43. **Bacteriology.**—Second term. Open to students who have taken or are taking course 6 in microscopy. Two lectures and ten hours laboratory work each week. Lectures M W, 9. Laboratory work T W F S. Professor MOORE and Dr. FITCH.

(The lectures may be taken as a two-hour course.)

44. **Parasites.**—First term. One hour. This course deals with the morbid changes caused by animal parasites and with practical work in their identification. Laboratory, sec. II, M, 8–10; sec. I, W, 8–10. Assistant Professor BURNETT and Dr. JONES.

45. **Research in Bacteriology and Pathology.**—Laboratory work. Prerequisites, courses 40 and 43. Professor MOORE, Assistant Professor BURNETT, and Dr. FITCH.

46. **Laboratory Methods of Diagnosis.**—Prerequisites, courses 40 and 43. One lecture and six hours laboratory work. Three hours each term. Professor MOORE, Assistant Professor BURNETT, and Dr. FITCH.

VETERINARY MEDICINE

D. H. UDALL, Professor.

F. F. KOENIG, Instructor.

The course in veterinary medicine, principles and practice, extends over the last two years of undergraduate study, the subjects of the second year being distinct from and complementary to those of the first. It includes the constitu-

tional dietetic and toxic affections and the non-infectious maladies of the different systems of organs—digestive, respiratory, circulatory, urinary, cutaneous, and visual—of the various genera of domestic animals. The wide scope of the course, covering as it does the varied manifestations of a given morbid condition in all domestic animals in turn, the complications in each, caused by constitution, environment, utilization, microbian infection, etc., and the application of prophylactic and therapeutic measures to all in turn, gives a breadth and soundness of view which should render the student a reliable and skilful veterinary pathologist, physician, and sanitarian.

The course on contagious diseases deals with the general subject of infection and contagion; the microbiology of diseases in which micro-organisms constitute the essential factor; the accessory and restrictive environment, such as condition of soil, water, air, climate, culture, season, weather, animal industries, trade, migration, war, consumption of animal food, etc.; the diagnosis of the different plagues; the various methods of suppression by the individual owner, the municipality, town, county, state, or nation; and the exclusion of pestilences from a country. The transmissibility of each contagious disease to different genera of animals, from animal to man, and from man to animal, together with the susceptibility of each genus to immunization and the best known means of securing this, receive due attention.

Enzootic diseases are carefully studied and the various causative factors in location, environment, and in constitutional or racial susceptibility are fully dealt with, as subsidiary to prevention and treatment.

The medical clinic, course 54, covers the above subjects as far as clinical material can be secured for this purpose. Our proximity to the city and to a well stocked agricultural country tends to secure a greater variety of patients than can be had in a large city remote from country flocks and herds. Students take charge of individual cases in the hospital and keep a record of cases with treatment. Out patients are also made use of for this purpose. The course also includes instruction in diagnosis. Through the medium of laboratory guides, students are expected to acquire a methodical system of examination by repeated systematic observations on both normal and diseased animals. This work involves the use of various special diagnostic methods taught in other laboratories of the College, such as examination of the blood, urine, and feces, the application of sero-diagnostic methods, etc.

50. **Veterinary Medicine, Principles and Practice.**—Five lectures or recitations a week. Five credit hours.

52. **Horseshoeing.**—Three lectures or recitations a week. Three credit hours.

53. **Consulting Clinic.**—Three actual hours a week for three terms. One credit hour.

54. **Medical Clinic.**—Three actual hours a week. Third year first and second terms. One credit hour.

55. **Ophthalmology.**—One lecture or recitation a week. One credit hour.

56. **Veterinary Hygiene.**—One lecture or recitation a week. One credit hour.

Special Lectures

During the year, a course of several lectures on special topics in medicine

will be given by eminent practitioners and teachers of veterinary medicine. These will form a part of the instruction in this department.

ADVANCED WORK AND RESEARCH

The opportunities for study and investigation offered to advanced students in the College and in the various departments of Cornell University are very great. The situation of the College gives it a great variety as well as abundance of material for research, and the facilities for prosecuting the work are ample. To graduate and advanced students, every opportunity and encouragement will be offered for carrying on independent investigations. For special courses in advanced work and research, see under the various departments, pp. 12–24.

COURSES FOR GRADUATES

The following courses have been arranged for graduates of this or other veterinary colleges who wish to devote further time to the study of certain phases of their profession. The need of instruction, in addition to that given regularly to undergraduates, is evident from the constantly increasing demand for men in special fields, such, for example, as teaching, research or sanitary work, and some one of the various departments of veterinary practice or public service.

In addition to the special courses appended, graduates may take such parts as they desire of the work given to undergraduates. There are given in the College of Agriculture several courses in animal husbandry, and in dairy and milk inspection, that can be followed by those who wish to specialize in these lines.

60. **Advanced Bacteriology.**—Laboratory work throughout the year. The course is designed for those who wish later to undertake original investigations in bacteriology. Prerequisite course 43, or its equivalent in some other university. Elementary chemistry and a reading knowledge of French and German are indispensable for successful work in this course. Professor MOORE and Assistant Professor BURNETT.

61. **Advanced Pathology.**—Laboratory work throughout the year. This course is open to students who have taken course 40 and have taken or are taking course 43, or the equivalent in some other university. Professor MOORE and Assistant Professor BURNETT.

62. **Clinical Examination of the Blood.**—Second term. One lecture and three hours laboratory work. Two hours. Prerequisite, course 40. Lecture S, 9. Laboratory work Th, 10–1. Assistant Professor BURNETT.

Department of Animal Husbandry

35. **Mechanics of the Horse.**—Prerequisite, course 34. Second half-year. Credit three hours. Lectures and recitations, T Th, 11; practice M, 10–1. Animal Husbandry Building. Assistant Professor HARPER.

36. **Advanced Stock Judging.**—Prerequisite, course 31. Credit one hour. S, 10–12. Animal Husbandry Building. Professor WING, Assistant Professor HARPER, and Mr. SAVAGE.

38. **Advanced Course in the Principles of Feeding.**—Prerequisite, course 31. Will not be given unless elected by at least five students. Lectures and reports. First half-year. Credit two hours. Animal Husbandry Building. Professor WING and Mr. SAVAGE.

ROSWELL P. FLOWER LIBRARY AND OTHER LIBRARY FACILITIES

The Flower Library.—By a gift of five thousand dollars to Cornell University for the purpose, the Honorable Roswell P. Flower, in 1897, laid a broad foundation for a thoroughly good working veterinary library. In order to insure the permanent usefulness of this library, Mrs. Flower, in 1901, gave ten thousand dollars for an endowment fund, the annual income from which is to be used for the purchase of books. The books and periodicals obtained with this fund have been considerably increased by donations from various persons and by books obtained from the income of the College; the veterinary library, which contains about three thousand eight hundred volumes, is also largely supplemented by the University Library, and by loans of books and periodicals therefrom.

The periodical room at the College, which is open daily from 7 a. m. to 6 p. m., contains the leading veterinary and medical periodicals in English, French, and German. In it are also found Foster's Encyclopedia, Medical Dictionary, and the Index Catalogue of the Medical Library of the Surgeon General's Office.

The Flower Library Room, which is open for free consultation at hours convenient to the students, contains most of the books and bound periodicals belonging to the Library or loaned to it from the University Library. Books bearing especially upon the work of any laboratory course are kept upon the shelves of the laboratory where they are constantly accessible. Books may be drawn from the library for home use by veterinary students.

The books and bound periodicals and transactions in the University Library upon veterinary and human medicine, with allied sciences, exceed ten thousand volumes. Over six hundred periodicals and transactions are received, many of them pertaining directly to medicine and biology. To all the University Library facilities the veterinary students have free access in the library and reading room, which are open daily from 8 a. m. to 11 p. m.

SEMINARIES

The different departments hold seminaries or special conferences for their advanced and graduate students. The purposes of these seminaries are: the discussion of methods for advanced and independent work, such as is expected of those who are preparing theses or prosecuting any special investigation; the presentation of the result of investigations and the progress of knowledge in the various departments; reports of students of the progress of their work. The students incidentally gain facility in public speaking and in preparation for taking a creditable part in veterinary or medical societies.

SOCIETY OF COMPARATIVE MEDICINE

This is a student society organized for the purpose of giving mutual aid in gaining general and special medical knowledge, and facility in conducting the exercises of the meetings and in presenting papers and discussions in a clear and forcible manner before an audience.

NON-RESIDENT LECTURERS

Practitioners and others working in the interests of veterinary medicine will from time to time give lectures to the veterinary students. This feature will undoubtedly broaden the scope of instruction and will bring the student in closer touch with matters pertaining to practice, meat inspection, and sanitation.

FREE TUITION FOR RESIDENTS OF NEW YORK STATE

In the words of the law for the administration of the New York State Veterinary College, "No tuition fee shall be required of a student pursuing the regular veterinary course, who, for a year or more immediately preceding his admission to said veterinary college, shall have been a resident of this state".

For students, not residents of New York State, the annual tuition is $100 of which $55 is to be paid at the beginning of the first term, and $45 at the beginning of the second term.

Laboratory fees.—Every person taking laboratory work is required to pay for the material actually used. For the first year the laboratory fees will amount to $45; for the second year, $42; for the third year, $15. The average is thus a little over $35 a year. Most departments require an additional precautionary deposit in order to insure against breakage and undue use of material. The above sums therefore represent the minimum charges.

A matriculation fee of $5 is charged all students on entering the University.

A fee of $10 is charged to cover the expenses of graduation, diploma, etc. This fee must be paid at least ten days before commencement. The amount will be refunded should the degree not be conferred.

Living expenses in Ithaca vary from $5 to $12 a week. Books, instruments, stationery, etc., cost $10 and upwards a year.

SCHOLARSHIPS, FELLOWSHIPS, AND PRIZES

University Undergraduate Scholarships.—At a special examination held at the beginning of the fall term in each year, eighteen scholarships, of the annual value of $200 each, are thrown open to competition by all members of the incoming freshman class. For a full statement of the provisions regulating the award and tenure of these University Undergraduate Scholarships, see the General Circular of Information.

University Fellowships for Graduates.—One University Fellowship of the annual value of $500 is annually awarded in veterinary science or in agriculture.

The Horace K. White Prizes.—These prizes established by Horace K. White, Esq., of Syracuse, are awarded annually to meritorious students in the graduating

class of the College. They consist of a prize of $15 to the first in merit, and a prize of $10 to the second in merit.

The Hollingworth Honorarium for Research.—An honorarium of $50 for advanced work or research in pathology and bacteriology, established by Dr. W. G. Hollingworth of Utica, is awarded to a senior on his general standing in the work of the first two years, and his proficiency in the first courses in pathology and bacteriology. It requires that the student receiving it shall do satisfactory work in these subjects during his senior year.

OPPORTUNITIES FOR SELF HELP

In addition to occasional and irregular work at hourly compensation in the various departments, the following positions as student assistant are open to capable veterinary students in their senior year:

Anatomy	$125 to $250 a year
Physiology	125 to 250 a year
Surgery	300 a year
Bacteriology and Pathology	125 to 250 a year

STUDY FOR PRACTITIONERS

The very rapid advance made during recent years in veterinary science and in facilities and methods for teaching it, as well as the advantage to be gained by studying a given subject under more than one teacher, make it highly desirable that busy practitioners should be enabled as far as possible to increase their personal knowledge by means of study at such times as they can leave their practice.

The New York State Veterinary College wishes to supply this want as far as practicable and offers every facility at hand to accomplish this end.

Veterinarians that are legally authorized to practice at their places of residence will be admitted to any class in the College at any time and for such period as they may elect, without entrance examinations. They will be wholly free to elect any studies that are being regularly taught at the time, and will be granted all opportunities and facilities offered to regular students as long as these opportunities do not interfere with the instruction of the regular students.

No tuition will be required from licensed veterinarians practising in the State of New York.

Those taking laboratory courses will be required to pay fees to cover the cost of the material used.

Every practicable facility will be offered for special study along desired lines. A study of pages 13 to 24, Departments, Methods, and Facilities, will not only give information suggested by the heading, but will also enable any practitioner desiring to attend to determine in advance precisely what work will be in progress at a given date.

This work is offered to veterinarians fundamentally and entirely for the benefits they may derive from increased knowledge in veterinary science and does not contemplate the granting of a degree, certificate, or other evidence of responsibility on the part of the College.

General inquiries in reference to this work should be addressed to the Director, while questions relating to studies in the various departments may be addressed to the heads of the departments concerned.

SIX-YEAR COURSE IN AGRICULTURE (B.S.A.), AND VETERINARY MEDICINE (D.V.M.)

Those who desire to obtain the degrees in agriculture and veterinary medicine may get them both in six years. In the fourth or senior year of agriculture, it is necessary to register also in the Veterinary College. In this connection the following resolution has been passed by the College of Agriculture.

"A regular student who has satisfactorily completed all the required work of his course and who has a credit of at least ninety hours, may, with the permission of the Faculties concerned, be registered both in the College of Agriculture and in the New York State Veterinary College and, on the completion of thirty hours of which not less than twelve hours shall be taught in the New York State College of Agriculture, may be recommended for his B.S.A. Degree."

At the end of the sixth year, after satisfactorily completing his work in the Veterinary College, he may be recommended for the degree of D.V.M.

APPENDIX A

Openings for Veterinarians in America

1. In the United States Cavalry and Artillery there is a demand for a limited number of veterinarians.

2. In the Bureau of Animal Industry, U. S. Department of Agriculture, a number of veterinarians are employed professionally as livestock agents and inspectors; inspectors and superintendents of quarantine stations; investigators in bacteriology and pathology and as meat inspectors. By an Act of Congress, the federal meat inspectors must be graduates of a veterinary college. Applicants for the position must take a civil service examination. The initial salary is $1,400.

3. In the different states there are appointive positions as State Veterinarian, and in some states as County or District Veterinarian. These are desirable positions and involve considerable responsibility.

4. The time is not far distant when each municipality must have its veterinary inspector of markets, abattoirs, and butcher meat, as well as of milk and other dairy products.

5. Veterinarians are needed to serve on tuberculosis and other commissions, so that work in this field may be conducted intelligently and successfully along scientific lines. The control of disease depends largely upon those specially trained in the anatomy, physiology, hygiene, and pathology of the lower animals.

6. Educators in comparative pathology are wanted in agricultural and veterinary colleges, and experiment stations, and must soon be in demand for every medical college that aims to keep abreast of the times.

7. There are always openings in the wide field of private veterinary practice. With a ratio of three farm animals to every human being, and with less than one veterinarian to every ten doctors of medicine for man, the balance of opportunity

seems to be largely in favor of the veterinary practice, and this preponderance must steadily increase with the recovery of stock values and the increase in numbers of farm animals.

APPENDIX B

Legal requirements for license to practise veterinary medicine and surgery in the State of New York. Extracts from article X, chap. 860, Laws of New York, 1895.

§ 171. **Qualifications for Practice.**—No person shall practise veterinary medicine after July one, eighteen hundred and ninety-five, unless previously registered and legally authorized, unless licensed by the Education Department and registered as required by this article, nor shall any person practise veterinary medicine who has ever been convicted of felony by any court, or whose authority to practise is suspended or revoked by the Education Department on recommendation of a State Board.

§ 176. **Admission to Examination.**—The Education Department shall admit to examination any candidate who pays a fee of ten dollars and submits satisfactory evidence, verified by oath if required, that he (first) is more than twenty-one years of age; (second) is of good moral character; (third) has the general education required in all cases after July first, eighteen hundred and ninety-seven, preliminary to receiving a degree in veterinary medicine; (fourth) has studied veterinary medicine not less than three full years, including three satisfactory courses, in three different academic years, in a veterinary medical school registered as maintaining at the time a satisfactory standard; (fifth) has received a degree as veterinarian from some registered veterinary medical school. The degree in veterinary medicine shall not be conferred in this state before the candidate has filed with the institution conferring it, the certificate of the Education Department that three years before the date of the degree, or before or during his first year of veterinary medical study in this State, he has either graduated from a registered college or satisfactorily completed an academic course in a registered academy or high school; or has a preliminary education considered and accepted by the Education Department as fully equivalent. [See pp. 8–9 for preliminary educational requirements.]

§ 178. **Examinations and Reports.**—Examination for license shall be given in at least four convenient places in this State, and at least four times annually, in accordance with the Education Department's rules, and shall be exclusively in writing and in English. Each examination shall be conducted by an Education Department's examiner, who shall not be one of the medical veterinary examiners. At the close of each examination, the Education Department examiner in charge shall deliver the questions and answer papers to the board, or to its duly authorized committee, and such board without unnecessary delay, shall examine and mark the answers and transmit to the Education Department an official report, signed by its president and secretary stating the standing of each candidate in each branch, his general average, and whether the board recommends that a license be granted. Such report shall include the questions and answers and shall be filed in the public records of the university. If a candidate fails on the first examination, he may, after not less than six months' further study, have a second examination without fee. If the failure is from illness or other cause satisfactory to the Education Department, they may waive the required six months' study.

§ 179. **Licenses.**—On receiving from the State board an official report that the applicant has successfully passed an examination and is recommended for license, the Education Department shall issue to him, if in their judgment he is duly qualified therefor, a license to practise veterinary medicine. Every license shall be issued by the university under seal and shall be signed by each acting veterinary medical examiner of the board and by the officer of the univer-

sity, who approved the credentials which admitted the candidate for examination, and shall state that the licensee has given satisfactory evidence of fitness, as to age, character and preliminary and veterinary medical education and all other matters required by law, and that after full examination he has been found properly qualified to practise. . . Before any license is issued it shall be numbered and recorded in a book kept in the Education Department office and its number shall be noted in the license. This record shall be open to public inspection, and in all legal proceedings shall have the same weight as evidence that is given to a record of conveyance of land.

§ 180. **Registry.**—Every license, to practise veterinary medicine, shall, before the licensee begins practice thereunder, be registered in a book to be known as the "veterinary medical register," which shall be provided by and kept in the clerk's office of the county where such practise is to be carried on, with name, residence, place and date of birth, and source, number and date of his license to practise. Before registering, each licensee shall file, to be kept in a bound volume in the county clerk's office an affidavit of the above facts, and also that he is the person named in such license, and had, before receiving the same, complied with all requisites as to attendance, terms and amount of study and examination as required by law and the rules of the university as preliminary to the conferment thereof, and no money was paid for such license except the regular fees, paid by all applicants, therefor; that no fraud, misrepresentation or mistake in any material regard was employed by any one or incurred in order that such license should be conferred. Every license, or if lost, a copy thereof, legally certified so as to be admissible to evidence, or a duly attested transcript of the record of its conferment, shall before registering, be exhibited to the county clerk, who only in case it was issued or indorsed as a license under seal by the Regents, shall indorse or stamp on it the date and his name preceded by the words: "Registered as authority to practise veterinary medicine, in the clerk's office of ——— county." The clerk shall thereupon give to every veterinarian so registered a transcript of the entries in the register, with a certificate under seal that he has filed the prescribed affidavit. The licensee shall pay to the county clerk a total fee of one dollar for registration, affidavit and certificate.

CATALOGUE OF STUDENTS

1911-12

FIRST YEAR

Andrews, John Dewit ..... Fair Haven
Baeszler, Alfred ..... Stapleton, S. I.
Baker, Harrison Vedder ..... East Aurora
Carnrite, James ..... Amsterdam
Clark, Joseph Stanley ..... Cornwall Landing
Daley, Edward James ..... Binghamton
Deal, Alfred Freer ..... Rhinebeck
Dean, Stanley Louis ..... Cortland
Dederick, Raymond Edgar ..... Catskill
Deming, David Francis ..... West Winfield
Eggleston, Harry William ..... Alden
Entenberg, Ralph ..... New York City
Fenner, Lynne Burton ..... Dolgeville
Ferry, Clarence ..... Hornell
Franke, Adolf Otto ..... Ithaca
Gardner, Maurice E ..... Deposit
Haner, Frank Henry ..... Hunter
Harris, James Augustine ..... Corfu
Hartman, Roy Charles ..... Verona
Hill, Charles F ..... St. Johnsbury, Vt.
Howe, Ivan Goodwin ..... Scio
James, Floyd Thomas ..... Eagle
Leonard, Milton Moot ..... Newfield
Loewe, Leon ..... Brooklyn
Mastin, Howard James ..... Millbrook
Mead, Lynn Howard ..... Syracuse
Moore, John H ..... Ithaca
Moulthrop, Ralph Roy ..... Binghamton
Murray, B. Frank ..... Bath
Price, Leo ..... Brooklyn
Queral, Edward Genaro ..... Porto Padre, Cuba
Savage, Alfred ..... Montreal, Canada
Smith, Arthur Lewis ..... Catskill
Smith, Franklin DuBois ..... East Chatham
Switzer, Herbert B ..... Bradford
Underdown, Lloyd H ..... Newfield
Vann, Herbert George ..... Brooklyn Hills, L. I.
Vara, J ..... Silver Creek
Webber, Clarence Wentworth ..... Bergen
Wilson, Lloyd ..... Fredonia
Winters, Raymond ..... Fayette
Wright, Lewis H ..... West Glover, Vt.
Youmans, Ray Sedric ..... Wellsbridge
Zuber, Frank P ..... Chili

SECOND YEAR

Allen, David Boice ..... Greene
Barker, Harry Elmer ..... Clifton Springs
Beach, Jerry Raymond ..... Canisteo
Brandenburg, Tunis Orville ..... Michigan, No. Dak.
Casey, John William ..... Theresa
Clark, David William ..... Delancey
Clarke, Harold ..... St. Remy

Cook, Joseph Dwight ..... Ithaca
Cornwell, Lloyd Rufus ..... Machias
Freer, Archibald ..... Ellenville
Gardner, Clyde Armstrong ..... Ithaca
Goff, A. Cameron ..... Canisteo
Griffin, Charles Albert ..... Ithaca
Guile, Charles Russell ..... Fulton
Hayden, Charles Ernest ..... Ithaca
Koenig, Nathaniel Edward ..... Brooklyn
Lyon, Vernon ..... East Masonville
McCord, Ralph Bemus ..... North East, Pa
Morse, John Robert ..... Rochester
Muldoon, William Edward ..... Waverly
Naylor, Howard Wing ..... West Laurens
Oberle, Alfred ..... Brooklyn
Reed, Lewis Francis ..... Remsen
Schaefer, Fred Henry ..... Liverpool
Selkin, William James ..... New York City
Singleton, Garrie Archie ..... Ithaca
Skinner, Charles Bailey ..... New Berlin
Stevenson, William Herbert ..... Weedsport
Sumner, William Henry ..... Tyson, Vt.
Thompsett, Gunn William ..... Delevan
Tillson, Hobart Warren ..... Morris
Wheat, John Chase ..... Moravia
Wheelock, Benjamin Harrison ..... Frankfort

THIRD YEAR

Birch, Raymond Russell ..... Neosho, Mo.
Bolton, Rudolph Ray ..... Mendon, O.
Bosshart, John Konrad ..... New York City
Buck, Walter Clark ..... Livonia
Butts, Emmett King ..... Ithaca
Cohen, Jacob Harvey ..... Brooklyn
Curd, Kirksey Louis ..... Buffalo
Dean, H. Gregory ..... Dundee
Feldman, Abraham ..... Little Falls
Flanagan, Russell J ..... Ghent
Forsyth, Arthur James ..... Batavia
Gleason, Willard Sherman ..... Liverpool
Grace, Arthur Cecil ..... Little Falls
Jennings, Earl A ..... Cazenovia
Koten, Louis Raphael ..... New York City
McClelland, Alfred Honeywell ..... Walton
Markham, Earl Simeon ..... Constableville
Merchant, Eustace S. D ..... Deposit
O'Loughlin, Daniel ..... Syracuse
Orth, Melvin Auringer ..... Liverpool
Pelton, Cleveland ..... Cuylerville
Roberts, James Flanders ..... Hamilton
Scott, Robert Hubbard ..... Dansville
Shaw, Richard Nutting ..... Ithaca
Sullivan, Michael Wallace ..... Solvay
Tompkins, Leland James ..... Walton
Webber, Orrin Blake ..... Rochester
Wermuth, John Joseph ..... Poughkeepsie
Wilson, Edward Lewis ..... Warsaw
Wright, David Edwin ..... West Glover, Vt.

GRADUATE STUDENTS NOT CANDIDATES FOR VETERINARY DEGREE

Deal, John Ellis ..... East Bloomfield
Fitch, Clifford Penny, B.S., M.S. ..... Ithaca
Pickens, Earl Max ..... Parish

SUMMARY

First-Year Students	44
Second-Year Students	33
Third-Year Students	30
Graduates not candidates for Veterinary Degree	3
	110